Message from the Duo

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from:	engineeringadventures@mos.org
to:	You
subject:	The Right Material for the Job

2:11 PM

Hi engineers,

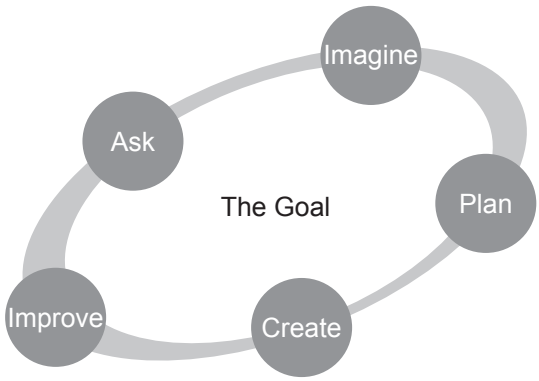
We're in a really cool place—Antarctica! We sent you a map so you can see where we are. We're visiting our friend Maru at a testing site for the National Aeronautics and Space Administration. NASA testing sites are places where engineers prepare for space missions in a safe but realistic environment before they leave Earth. NASA needs to test a lot of things, from big pieces of equipment to little scraps of materials.

Maru is a materials engineer, so she works with metals, fabrics, plastics, and other materials to design spacesuits. Spacesuits have many parts that work together, including helmets, boots, and gloves.

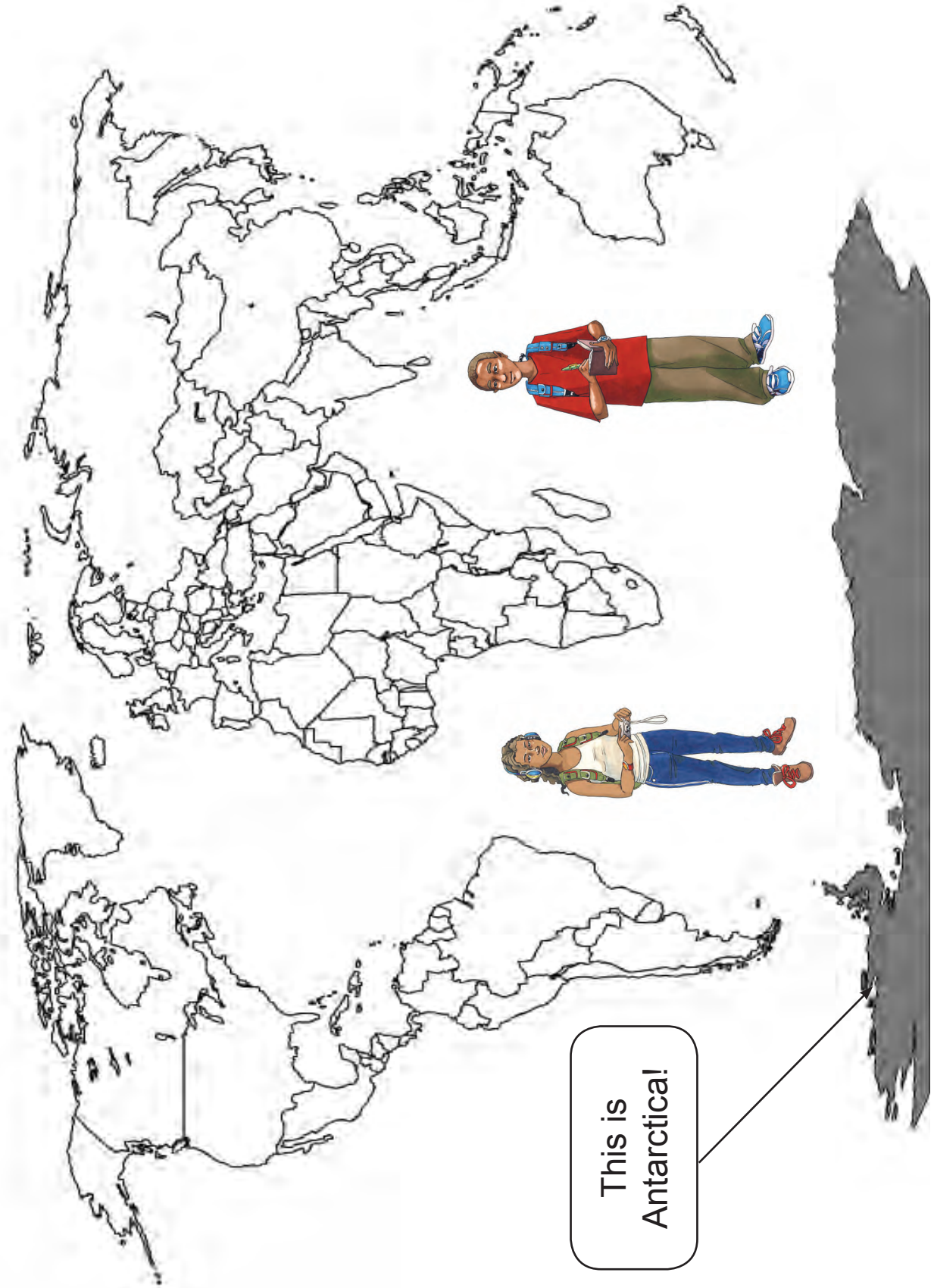
Can you be materials engineers? We sent you some everyday gloves to explore. Can you help us *ask* lots of questions about these wearable technologies? What materials are they made of? What features make them good for some tasks but not for others?

We can't wait to hear what you find out!

India and Jacob



Did You Know?
No country owns Antarctica. The Antarctic Treaty of 1959 subdivided the continent into eight territories. Seven countries conduct scientific studies within these territories.



Message from the Duo

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from:	engineeringadventures@mos.org
to:	You
subject:	Designed for Protection

3:02 PM

Hi engineers,

What did you think of those different gloves?

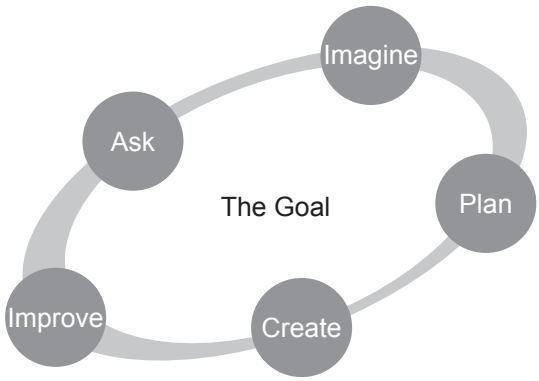
Maru told us that she has to carefully consider the materials in a spacesuit to make sure it can protect astronauts from the hazards, or dangers, of space. She showed us a video from NASA about how they engineer spacesuits, and we wanted to share it with you.

Astronauts, and the gear that protects them, must perform well in all sorts of hazardous conditions, including dust storms, moving space debris, and extreme temperatures—and guess what? NASA is asking us to help design gloves for some of their spacesuits!

Sometimes it helps us to *imagine* some ideas before we *create* our designs. Do you have any ideas about what astronauts could wear to protect themselves from space hazards? You can send your ideas to engineeringadventures@mos.org.

We can't wait to see what you come up with!

India



1. *Imagine* you are an astronaut working in space. Choose one or two hazards that would make it difficult to survive.

2. What do you think you could wear to help protect yourself from these space hazards? Write or draw your ideas below.

Did You Know?
New space gloves are constantly being designed because astronauts can hurt their fingernails very easily in the current gloves. The current gloves are not flexible and cause enough damage that the astronauts' fingernails fall off!